CONCEPTUAL PROPOSAL FOR REMEDIAL ACTION
ECC SITE

PREPARED FOR:

ECC STEERING COMMITTEE

MAY 29, 1987

TABLE 1

PROPOSED REMEDIAL ACTION AT ECC

	RISK ELEMENT	ECC PLAN	CAA ALTERNATIVE 5
1.	Direct Contact & Ingestion	Access Control Site Cover	Access Control RCRA Cap Site Work
2.	Future Threat from Ground Water	Monitoring with Action Levels	Monitoring
3.	Contaminated Ground Water from Soil Leaching	Soil Vapor Extraction with Enhanced Biodegradation	Ground Water Collection & Treatment

ERM-North Central, Inc.
May 28, 1987
ECC

TABLE 2

PROPOSED REMEDIAL ACTION AT ECC

RISK ELEMENT	ECC PLAN	BASE COST, $1000	CAA ALTERNATIVE 5	BASE COST,$1000
1. Direct Contact & Ingestion	Access Control	$ 17	Access Control	$ 17
	Site Cover	$ 35	RCRA Cap	$ 615
			Site Work	$ 278
2. Future Threat from Ground Water	Monitoring with Action Levels	$ 10	Monitoring	$ 10
3. Contaminated Ground Water from Soil Leaching	Soil Vapor Extraction with Enhanced Biodegradation	$155	Ground Water Collection & Treatment	$ 201
	BASE COST SUB-TOTAL	$217		$1,121
	ADMIN & ENG at 75% (ECC FS FACTOR)	$163		$ 840
	ANNUAL O & M $ 90		$ 106	
	O & M PRESENT VALUE	$ 82		$1,000
	TOTAL PRESENT VALUE	$462		$2,961
TIME REQUIRED FOR EFFECTIVE TREATMENT		1 YEAR		>30 YEARS

ERM-North Central, Inc.
May 28, 1987
ECC

TABLE 3

DESIGN ELEMENTS

	ELEMENTS		NEED TO DEFINE
o	Access Control	-	Specifications
o	Ground Water Monitoring	-	Location
		-	Number
		-	Depth
		-	Parameters
		-	Frequency
		-	Thickness
		-	Materials
		-	Placement
o	Site Cover	-	Thickness
		-	Material
		-	Placement
o	Soil Vapor Extraction Enhanced Biodegradation (Treats VOC's directly phthalates indirectly)	-	Surface or well & points
		-	Air return system &
		-	Vapor treatment o None (photoox.) o Catalytic Incin. o Other

ERM-North Central, Inc.
May 28, 1987
ECC

TABLE 4

DATA REFERENCES

"Systems to Accelerate In-Situ Stabilization of Waste Deposits" EPA/540/12-86/002 Sept. 1986

ECC RI p. 4-39

Depth to saturated zone 6-15 ft
$K = 4.9 \times 10^{-4}$ from slug tests

ECC RI Figures 4-5 to 4-7

Almost all soil contamination 0-3 ft
VOC's still high 3-5 ft
Only low levels remain 5 1/2 - 7 ft
At 1 point for VOC
And 2 points for phthalates
No phenol or PAH below 5 ft

ECC RI Table 5-3

Physical properties of site contaminants

ECC FS Table D-10 p.2 Soil Vapor Cost

p. 6-23 Soil Vapor Treatment Rate*
p. 6-21 Ground Water Treatment Rate

CAA FS Table 3-9 Alternative 5 Cost

* Removal of 300 cfm = > 4.5 MM m^3/yr of soil vapor removed. At 100 Vppm (0.08 torr), 5000 lb/yr of VOC would be removed. Total VOC present on soil <500 lb. Therefore, operation should be for one year or less.

ERM-North Central, Inc.
May 28, 1987
ECC

TABLE 5

ASSUMPTIONS

I. The risk at ECC is due to

1. Potential ingestion of soil on-site
2. Potential threat of leaching VOC's to ground water

II. The proposed alternative (CAA 5)

1. not cost effective
2. overly elaborate
3. will require >30 years to be effective
4. does not address Finley Creek contamination observed at Highway 421

III. The ECC alternative proposal is

1. cost effective
2. appropriate to endangerment
3. provides treatment for VOC by vapor extraction & for phthalates by enhanced biodegradation
4. should be complete in <1 year
5. consistent with SARA/EPA regarding application of innovative treatment